1-23 Cancelled **AMENDMENTS TO THE CLAIMS**

24. (Previously Presented) A method for recording and reproduction on a magneto-optical recording medium including at least first and second magnetic layers, in which multi-valued information is recorded on the magneto-optical recording medium as a combination of magnetization states of the respective magnetic layers, and the multi-valued information is reproduced on the basis of an aggregate of the magnetization states of the respective magnetic layers, comprising:

irradiating the magnetic layers with a light beam having wave length λ_1 to reproduce first information recorded on the first magnetic layer;

storing the first information reproduced from the first magnetic layer; and

irradiating the magnetic layers with a light beam having wavelength λ_2 ($\lambda_2 \neq \lambda_1$) to heat to a recording temperature of the magnetic layers while applying a magnetic field in accordance with a combination of the stored, first information and second information to be recorded on the second magnetic layer, so that the first information is re-recorded on to the first magnetic layer and the second information is recorded onto the second magnetic layer.

25. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 24, wherein the light beam having wavelength λ_1 is used as a reproducing light beam, and the light beam having wavelength λ_2 is used as a recording light beam.

26. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 24, wherein the light beam having wavelength λ_1 and the light beam having wavelength λ_2 are irradiated onto the recording medium so as to focus at different positions from each other in a track direction.

27. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 24, wherein the light beam having wavelength λ_1 and the light beam having wavelength λ_2 are irradiated onto the recording medium so as to focus on adjacent recording tracks, respectively.

28. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 24, wherein the light beam having wavelength λ_1 and the light beam having wavelength λ_2 are irradiated so that a distance between beam spots formed on the recording medium is adjusted to an appropriate length based on characteristics of a memory for storing the information on the first magnetic layer and a circuit for modifying a magnetic field.

29. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 24, wherein the reproduced information on the first magnetic layer is stored by a memory.

30. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 24, wherein the recording temperature is not less than Curie temperatures of the first and second magnetic layers.

31. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 24, wherein only the second magnetic layer is substantially rewritten.

32. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 24, wherein the magneto-optical recording medium to be used is a magneto-optical recording medium in which an order of intensities of a plurality of reproduction signals detected for a plurality of magnetization states determined by the combination of the magnetization states, obtained upon detection at the wavelength λ_1, is mutually different from that obtained upon detection at the wavelength λ_3 ($\lambda_3 \neq \lambda_1$).

33. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 32, wherein information recorded on the first magnetic layer is reproduced by radiating a light beam having the wavelength λ_1, while the reproduced information is combined with information to be recorded on the second magnetic layer to perform recording by using a recording light beam having the wavelength λ_2, and thus only information on the second magnetic layer is rewritten.

34. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 32, wherein λ_1 is 350 to 900 nm, and λ_3 is a wavelength different from λ_1 by not less than 50 nm.

35. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 24, wherein a ratio of magnitudes of Kerr rotation angles read from a plurality of magnetization states determined by the combination of the magnetization states, obtained upon reproduction by using the light beam having a wavelength λ_1, is mutually different from that obtained upon reproduction by using the light beam having a wavelength λ_3 ($\lambda_3 \neq \lambda_1$).

36. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 24, wherein magnitudes of Kerr rotation angles read from a plurality of magnetization states determined by the combination of the magnetization states differ depending on a wavelength of a reproducing light beam respectively; and

the magneto-optical recording medium has a magneto-optical characteristic that a curve, which represents variation in the Kerr rotation angle with respect to the wavelength of the reproducing light beam detected from one combined magnetization state, intersects a curve which represents variation in the Kerr rotation angle with respect to the wavelength of the reproducing light beam detected from at least one of other combined magnetization states, in a wavelength range of λ_1 to λ_3 of the wavelength of the reproducing light beam.

37. (Previously Presented) The method for recording and reproduction on the magneto-optical recording medium according to claim 36, wherein the magneto-optical recording medium comprises at least a dielectric layer, the first and second magnetic layers, and an auxiliary magnetic layer on the substrate, wherein at least one of the first and second magnetic layers is represented by the following general formula:

$(Tb_{100-A}Q_A)_XFe_{100-X-Y-Z}Co_YM_Z$

wherein

15 atomic % $\leq X \leq$ 40 atomic %;

5 atomic % $\leq Y \leq$ 20 atomic %;

0 atomic % $\leq Z \leq$ 15 atomic %;

0 atomic % $\leq A \leq$ 30 atomic %;

wherein M is at least one of elements selected from the group consisting of Nb, Cr, Pt, Ti, and Al, and Q is at least one of elements selected from the group consisting of Gd, Nd, and Dy.

38-40. **(Cancelled)**